in the aquatic Moſs, *&c.* The Eggs are ſoon hatch'd; the young Reptiles creep amongſt the Stones and Weeds, *&c.* and ſo continue Water-Animals the greateſt Part of the Year, until the Seaſon comes round for their Appearance in that beautiful Fly before you, which is different from our *European*; but their Proceſs I think well agrees with ours, as it is curiouſly deſcribed and delineated by that Excellent Naturaliſt Mr. *Reaumur*. They have a great Variety of this Tribe of Inſects in *America*, as well as we have in *Europe*.

VII. Alberti Halleri *Archiatri & Conſil. Aul. Reg.* Medic. *in Acad.* Gottingenſ. *Prof. & Reg. Soc.* Lond. *Sodal. Experimenta aliqua ad* Reſpirationem *pertinentia.*

Read Feb. 1. 1749-50. CONtroverſia de reſpirationis modo nuper exorta eſt, cujus hiſtoriam hic recenſere nihil adtinet. Sufficiat contraxiſſe experimenta in duo capita, quæ ad rem perficiendam ſpectant.

Dubium primum fuit, num muſculi intercoſtales interni elevent coſtas, ut primus veſter *Mayovius* invenit; an deprimant, ut olim *Galenus*, tum *Franciſcus Bayle*, et alii.

Dubium alterum fuit, an aer elaſticus reperiatur

inter pleuram et pulmones, an omnino pulmones pleuræ continui ſint.

Sexaginta fere viva animalia incidi, præter alia experimenta. In iis repertum eſt, quod nunc vobis ILLUSTRES VIRI, propono, rogatoſque volo, ut repeti pericula jubeatis, atque, ſi omnino meis conſentiunt, finem inponatis controverſiæ.

Ad primam quæſtionem. Cani religato nudentur muſculi pectoris, cute remota, in ſuperiori maxime parte, ubi res evidentior eſt. Removeatur præterea pectoralis uterque, et deſtruatur tantum de exterioribus intercoſtalibus, quantum ſufficit ad obſervandam conditionem et actionem internorum.

Utile fuerit animal cogere, ut quam vehementiſſime inſpiret: quod fiet inprimis pectoris altera parte foramine pertuſa, ut aer ſubire, et alterum pulmonem inutilem reddere poſſit. Ita enim animal pulmone ſuperſtite, quam maximo cum conatu utitur. Non tamen neceſſe eſt pleuram perforare, et irritatus canis, etiam abſque ea vi valide reſpirat, ſi alcohole vulnus tangatur.

Adparebit ita, in inſpirando, coſtarum intervalla quam proxime ad ſe invicem accedere, ut ultra medium ſibi propiora fiant, muſculos internos laborare vehementer, tumere, dureſcere, coſtas adſcendere omnes, prima excepta, quæ tantillum movetur, rotari omnes circa punctum imaginarium, quod eſt in appendice cartilaginea haud longe a ſterno, ut coſtæ pars ſterno conmiſſa deſcendat, pars a ſterno remota adſcendat, et extrorſum vertatur.

In expiratione deſcendunt coſtæ omnes, iterum prima excepta, quæ parum nutat; intervalla, in vehementi expiratione, longiora fiunt, et tenduntur, et qui-

quieſcunt interni muſculi. Hæc ad primam quæſtionem.

Ad alteram.

Sumatur animal quodcumque vivum aut mortuum, mergatur ſub aqua, et ſub aqua prudenter, ne pulmonem lædas, pertundatur pleura. Si aer elaſticus eſt inter pleuram et pulmonem, bullæ adſcendent per aquam. Si nullæ adſcendunt, nullus adeſt aer. Id me rectius nôſtis, et ex principiis patet.

Sed repetita ſatis experimenta feci. Bullæ nunquam adparuerunt in ullo experimento, et videor mihi nihil præcipitis corollarii inde deducere, ſi inde concluſero, nullum adeo elaſticum aerem inter pleuram et pulmonem eſſe.

D. Gottingæ, *d.* 6. Jan. 1749.

VIII. *A Letter from Father* Anthony Gaubil *Jeſuit, to Dr.* Mortimer, *Secr. R. S. containing ſome Account of the Knowlege of Geography among the* Chineſe, *and of Paper-Money current there. Tranſlated from the* French *by* T. S. M. D. *and F. R. S.*

Peking *Nov.* 9. 1748.

SIR,

Read Feb. 1. 1749. IT is now ſome time ſince I received from M. *de L'iſle* Part of a Map of the World, found among the Papers of the late Dr. *Kæmpfer*. In this Map were ſeveral *Chineſe*